

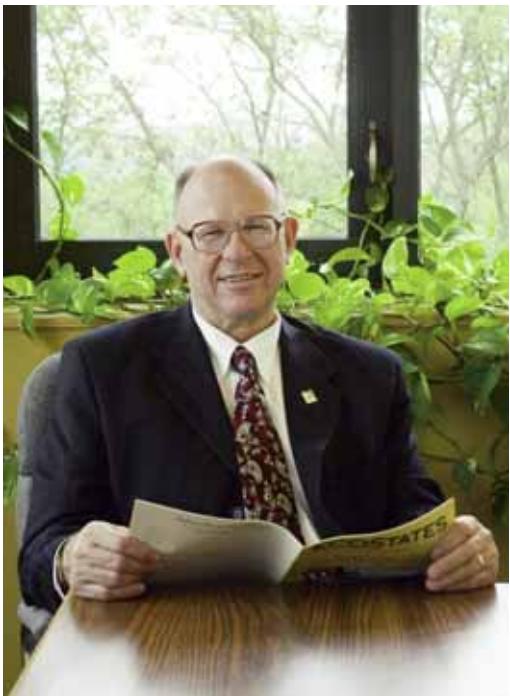
MISSOURI

resources

Fall 2008 • Volume 25 • Number 3



Directors' Comment



In August, the Missouri Department of Natural Resources' ombudsmen reached an important milestone: they made 6,000 contacts in the program's first three years.

Through these visits, the ombudsmen have spread the word about several environmental initiatives. The ombudsmen helped promote the department's Tire Dump Roundup Program, which allows private property owners to self-report tire dumps on their properties and have them cleaned up for free. Ombudsmen also visited 177 salvage operations to encourage participation in the End of Life Vehicle Solution Program, or ELVS. To encourage participation in a cooperative designed to recycle wall-mounted mercury thermostats, ombudsmen met with 102 heating, ventilating and air conditioning contractors and wholesalers. Ombudsmen also visited 158 communities throughout Missouri to remind them that they had received training vouchers for their drinking water systems operators; these vouchers were about to expire, so encouraging communities to use them was critical. The ombudsmen and I have also held more than 108 town hall meetings with more than 1,670 Missourians across the state.

The ombudsmen also proactively seek out those who might need assistance from the department, then put them in touch with the appropriate staff. This has included business owners who are struggling to bring their operations back into compliance with regulations, builders looking for information on minimizing their environmental footprints and communities in need of financial help in upgrading infrastructure. Nearly a quarter of the ombudsmen's visits result in follow-up assistance from staff in the programs or regional offices. In the course of making these 6,000 visits, the ombudsmen report that they've heard more than a thousand positive comments about our department and our staff.

What our ombudsmen have seen, time after time, is that Missourians care about their natural resources. Whether it's a school working to provide a quality education to its students or a community trying to keep pace with its growth, our ombudsmen show Missourians how they can accomplish these goals while also protecting Missouri's natural resources.

An ombudsman is located at each of the department's five regional offices and the department's Division of Geology and Land Survey Office in Rolla. To find out how to contact the ombudsman in your region, visit the department's Web site at [www.dnr.mo.gov/ombudsman.htm] or call us at 1-800-361-4827.

A handwritten signature in cursive script that reads "Doyle Childers".

Doyle Childers
Missouri Department of Natural Resources

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Mission Statement

The mission of the Missouri Department of Natural Resources is to protect, preserve and enhance Missouri's natural, cultural and energy resources.

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Planning a New State Park



DNR photos by Scott Myers

Above right: A broad beech fern grows at the base of acid seeps at Morris State Park in Dunklin County.

Above: Sunset at Lake Wappapello in Wayne County.

FRONT COVER: Now part of the new Current River State Park, the buildings of the Alton Club are listed on the National Register of Historic Places.

BACK COVER: A portion of the new park, scheduled to open in 2010, is within the scenic easement of the Ozark National Scenic Riverways.

Cover photo by Scott Myers.



State Parks file photos

Nature and History

The Group Camp Experience

by Bonnie Stepenoff

What is the best thing about the organized group camps in Missouri state parks? Floyd Lee, facility manager at Lake of the Ozarks State Park, says it is “the ability to resurrect your childhood and reunite with yourself and your family.” At Dr. Edmund A. Babler Memorial, Crowder, Cuivre River, Knob Noster, Lake of the Ozarks, Mark Twain and Roaring River state parks, the Missouri Department of Natural Resources has preserved group camps that also give visitors the chance to connect with history.

These camping facilities originated in the 1930s, when Franklin D. Roosevelt's New Deal aimed to lift the United States from the Great Depression. Seventy-five years ago, the Civilian Conservation Corps (CCC) mobilized hundreds of thousands of jobless men to work in forests and parks, planting trees and building recreational facilities. In 1934, the federal government began buying worn-out farmland for Recreational Demonstration Areas. The National Park Service stipulated that these RDAs should be close to cities. Missouri's RDAs included Lake of the Ozarks near the new Bagnell Dam near Kaiser, Montserrat (now Knob Noster State Park) near Kansas City, and Cuivre River near Troy, 50 miles northwest of St. Louis. In each of these areas and in several state

parks, CCC enrollees built group camps for urban youngsters.

Between 1933 and 1942, more than three million men signed up for the CCC. Most enrollees were between 17 and 25 years old, but some were older veterans of the First World War. African-American enrollees served in segregated units. The government sent the men to work camps, where they earned \$30 a month. Local men taught skills like driving trucks, repairing machinery, hewing timber and cutting the stone for park and recreation structures.

Camp counselors Jeremy Sieg and Aaron Schwartz demonstrate how to deal with live obstacles on the confidence course at Camp Clover Point.



(Opposite page, clockwise from upper left) In the 1930s, CCC enrollees cut timber for park structures at Cuivre River RDA. Girls prepare for a play at Cuivre River's Camp Sherwood, ca. 1940s. A camper learns woodworking at Cuivre River's Camp Derricotte, ca. 1940. Campers prepare food in the outdoor kitchen at Lake of the Ozarks group camp in the 1940s. CCC Co. 1713 enrollees and locally employed workers pose in front of the barracks at Roaring River State Park in 1933. Camp Fire Girls in front of the Hand Craft Lodge at Montserrat RDA's (now Knob Noster State Park) Camp Shawnee, 1954. Play time at Camp Derricotte, ca. 1940.



Campers gather at the dining lodge at Camp Sherwood Forest in Cuivre River State Park.

DNR photo by Scott Myers

New Dealers hoped that working in parks would give young men a new respect for the beauty and promise of America. Before joining the CCC, many of the men were underfed and lacking in hope for the future. Educational programs allowed enrollees to complete high school or college courses. When they left the CCC, many men had gained weight, acquired useful skills and experienced a closer connection to nature.

Many people believed that living close to nature, even for a short time, could build character. In the early 20th century, numerous private camps attempted to rekindle the pioneer spirit. When hard times eroded American optimism, camp administrators tried to renew people's faith in hard work and ingenuity. Supporters of camping programs hoped that young people who ate, slept, worked and played together in a natural setting would learn firsthand the meaning of democracy.

During the Depression, National Park Service architects designed rustic camps nestled in wooded landscapes. Camp Sherwood Forest in Cuivre River RDA exemplified the National Park Service ideal of the decentralized camp with clusters of small cabins in secluded units. About 20 campers shared each unit, preparing meals in communal kitchens and gathering in cozy lodges. Campers from all four units could come together in the central dining and recreation halls.

After World War II, Missouri's three RDAs became state parks, and the group camps continued to serve children and adults from nearby cities. The Missouri State Park Board believed that the group camping experience combined democratic ideals with a reverence

for nature. In a 1960 promotional film, the park board asserted that children in group camps developed a "feeling of belonging," along with "attitudes and understandings fundamental to the American way of life."

Group camp usage for all seven state parks with group camps peaked at 140,000 campers in 1969 and then began to decline. John Balkenbush, a capital improvements specialist with the department's Division of State Parks, recently noted that there were sharp drops in 1979 and again in 1987, when the number of campers hit an all-time low of less than 60,000.

Since 1987, the camps have had their ups and downs, but the trend has been generally upward. By the year 2000, the number of campers climbed back up to more than 100,000. There was another downturn after 2001, but from 2003 through 2007, the numbers leveled off at about 80,000 campers per year.

A 1991 study revealed that more than 60 percent of campers were children and adolescents, and youth groups have remained the primary users. In recent years, the camps have housed growing numbers of church outings, family reunions and wedding receptions. Because of these new users, Randy Becknell, facility manager at Cuivre River State Park, reports a steady increase in group camp visitors at his park from 2002 through 2007.

According to Lee, the Depression-era group camps have had to buck a national trend toward modernization of camp sites. The department recognizes that preserving the historic integrity of the buildings limits

the level of modernization upgrades that can be made.

After decades of programming at Camp Pin Oak in Lake of the Ozarks State Park, the Girl Scouts recently opted to move to more modern facilities. The Girl Scouts left, but other groups have come. The Future Farmers of America overflowed from Camp Rising Sun and used the facilities at Camp Pin Oak. Camp Clover Point houses 4-H groups, civic groups and a college camping program. Camp Redbud, the smallest group camp at Lake of the Ozarks State Park, works well for church groups and family reunions.

Lee says park administrators are "looking for methods to revive the natural camping experience." Recent developments such as the Outpost camper cabins, which have no electricity or water, have been very popular. Summer heat is a problem without air conditioning, but these cabins are popular in fall and winter, Lee says. "People like the solitude, the peacefulness."

As if to illustrate his point, on a brisk day last February, a fire burned in one of the stoves at the Outpost. On that same day, a group of bicyclists headed out of Camp Pin Oak for a ride on a winding road through the woods.

Keith Petersen, facility manager at Knob Noster State Park, reports similar challenges. At Camp Shawnee, the department upgraded the facilities with electricity. Still, many groups look for more modern amenities, including air conditioning. The primary users of Camp Shawnee are Reorganized Church of Latter Day Saints youth groups from the Kansas City area.

Petersen believes that organized group camps "provide an environment for groups to present their own camping programs for a reasonable price." Visitors can also take advantage of programming provided by the "excellent interpretive staff here at the park."

Becknell believes the group camps can play an important role in environmental education. For the past 30 years, the Fort Zumwalt School District has conducted a program at Camp Sherwood Forest for fifth-grade students. Teachers bring their students in groups for a five-day program that offers hiking, caving and other outdoor experiences.

In Becknell's opinion, there always will be people who want an affordable experience and people who are environmentally conscious who will want to use the group camps. The best thing about the group camp experience, he says, is that "the primitive character

of the camps brings people closer to nature." Lee emphatically agrees. "You're going to a place," he says, "with no Wi-Fi, no TV, so you have to exercise. You have to play."

Seventy-five years ago, young men in brown CCC uniforms did the hard work of hewing timber and laying stone for the rustic structures and the group camping facilities. The workers' devotion is evident in arched bridges, massive stone chimneys, cozy wooden cabins, carefully planned hiking trails and graceful shelters that blend with the landscape. Many of these structures have been listed in the National Register of Historic Places, and the Department of Natural Resources has carefully preserved them.

The best thing about the group camps may be that they give people the chance to connect with both nature and history.

For more information on group camps in Missouri state parks, contact the Department of Natural Resources at 1-800-334-6946 or visit the Web site at [www.mostateparks.com]. ☀

Bonnie Stepenoff, Ph.D., is a professor of history at Southeast Missouri State University, and author. From 1984-1992, she was a cultural resource preservationist for the Department of Natural Resources. Her most recent book, From French Community to Missouri Town: Ste. Genevieve in the Nineteenth Century, is available through the University of Missouri Press by calling 1-800-828-1894.

(Below) Rustic cabins at Camp Sherwood Forest, in Cuivre River State Park, provide a comfortable link to the past and vary in size to accommodate group campers or families.

(Bottom) Pictured is the rustic camp infirmary at Camp Sherwood.



DNR photos by Scott Myers





EXPORTING GREEN

by Kathy Deters

Numerous Missouri businesses are exporting green – environmentally friendly products, goods and services – and in exchange, bringing cold, hard, green cash into the state.

If you've ever cared enough to send the very best, you're already familiar with one of Missouri's leading green exporters. Kansas City-based Hallmark Cards Inc., has used recycled paper in products and packaging since the 1970s and now recycles 29,000 tons annually. In the early 1990s, the company began using water-based inks.

Hallmark also donates surplus products to educational and human service organizations. Through a program called Kaleidoscope, scraps from the company's manufac-

turing processes go to school-aged children, who turn them into their own personal masterpieces. Efforts like these have allowed Hallmark to cut its solid waste by 70 percent and hazardous waste by 90 percent.

Businesses like these prove that ingenuity plus environmental stewardship can equal a bigger bottom line. At Hallmark, an energy reduction program started in 1995 now saves the company \$1 million annually.

"It's just good business sense to take care of the world around us and to protect our resources for future generations," said Kristi Ernsting, a spokesperson for Hallmark.

Many Missouri businesses have implemented a "waste not, want not" philosophy. In 2007, waste and scrap accounted for

(Above) Employees help install a rain garden on the grounds of Hallmark's headquarters as part of Kansas City's "10,000 Rain Gardens" initiative.

\$131 million of Missouri's exports. Thanks to recovery efforts, waste that would have ended up in Missouri landfills is instead finding a second life in a variety of goods that are then sold around the globe. The Environmental Improvement and Energy Resource Authority, a financial arm of the Missouri Department of Natural Resources, often provides financial and technical support to assist these efforts. This program promotes the development of markets for recovered materials and recycled-content products throughout Missouri.

Have you ever wondered what happens to your newspaper after you drop it in the recycling bin? Thanks to one Missouri operation, it may be helping to keep families warm in Missouri, Arkansas, Illinois and Kansas. The Missouri branch of Cell Pak and Johnson Products, located in Columbia, recycles 25 to 28 tons of newspaper per day, five days a week, turning the used newsprint into cellulose insulation. Much of their newspaper is purchased from community recycling programs.

Cell Pak and Johnson Products, which are owned by Service Partners in Virginia, employ 13 employees and sell approximately \$13 million annually. According to Jim Herlein, the Missouri branch manager, they've seen a 60 percent increase in the past year, which he attributes to a better understanding of energy efficiency and a growing desire to be green. Good customer service doesn't hurt, either. Many participants in Missouri's Low-Income Weatherization Program, which is administered by the Department of Natural Resources' Energy Center, have benefited from this product.

For those looking for the safest way to dispose of electronic devices, Springfield-based Computer Recycling Center provides another valuable service. This company accepts and recycles more than 44 tons of e-scrap each month. The center provides recycling services to several clients in Missouri, as well as Arkansas, Oklahoma, Kansas, Michigan and Alabama.

This business de-manufactures all waste in-house, which helps to ensure that sensitive data is destroyed completely and that each item is truly recycled. Computer Recycling Center was the first State of Missouri Certified Resource Recovery Facility for e-scrap. Computer Recycling Center currently recycles 98 percent of the scrap it receives, and hopes to reach its goal of 100 percent in the near future.

The Department of Natural Resources established e-cycle Missouri, a partnership made up of recyclers, federal, state and local governments, manufacturers, environmental groups and retail organizations, to assist businesses like this. E-cycle Missouri provides best management practices and helps those with e-scrap find recyclers.

"[The Department of Natural Resources] has been instrumental in laying the foundation for what is acceptable and not acceptable in the state of Missouri," said Ken Reiss, president of Computer Recycling Center. "Through education, [the department] has helped bring the e-waste problem to the attention ... of Missouri."

Numerous Missouri businesses and operations have benefited from state initiatives to encourage green practices. Kansas City Ford auto plant workers are building combination hybrid and renewable fuel vehicles that are being sold and driven throughout the United States. To encourage the growing market for alternative fuels and vehicles, Gov. Matt Blunt enacted a 10 percent ethanol standard for the state. The new standard is also helping protect Missouri's environment. Ethanol is a cleaner-burning alternative to petroleum-based gasoline and contains more oxygen, which results in better combustion and fewer carbon dioxide, carbon monoxide and carcinogenic emissions.

Gov. Blunt supports proactive solutions to save energy. The governor's leadership has led to innovative programs within state

(Below) Hallmark sponsors e-waste collection events for employees so they can responsibly dispose of electronics, such as computers, monitors, televisions and cell phones.

(Bottom) The proposed Torre Aristos project in San Salvador, an office building and hotel, is expected to be the first LEED-certified building in Central America.



Hallmark Cards photo



Hellmuth + Bicknese Architects photo



Hellmuth + Bicknese Architects photo

An interior view of Green-spun Media Group Tenant Improvement offices, a LEED commercial interiors project by Hellmuth + Bicknese Architects. The space is in the American Nevada Co. Corporate Center VI building near Las Vegas, Nev. The office space and building are submitted for LEED gold certification.

government that, once fully implemented, will both reduce energy use and save taxpayers nearly \$16 million in energy costs every year. These initiatives include a range of projects from centralizing and monitoring statewide energy consumption to utilizing landfill gases as a heating source.

Blunt also issued an executive order requiring that at least 70 percent of new vehicles purchased by the Office of Administration be flexible fuel vehicles.

"Missouri's entrepreneurs are innovators, and our state's beautiful landscapes and natural resources inspire a de-

sire to protect these resources for future generations to enjoy," Blunt said. "Merging the value of protecting the environment with new technologies and innovations created by entrepreneurs has resulted in a burgeoning green industry in Missouri that not only boosts our economy but protects our state's environment."

This year, the legislature approved Gov. Blunt's plan to create a Show-Me Green Tax Holiday, forgiving state sales tax on Energy-Star certified appliances for one week every year. Missouri is only the fourth state in the country to enact this environmentally friendly tax holiday.

"Improving energy efficiency saves resources, makes our environment healthier and saves money for Missouri families," Blunt said. "The Show-Me Green Tax Holiday will encourage Missourians to make more environmentally responsible choices by providing additional incentives to buy energy-efficient products."

Even as construction has taken a downturn recently, green building and green collar jobs continue to see growth, according to Ralph Bicknese, a principal with St. Louis-based Hellmuth + Bicknese Architects LLC.

"I'm not sure the word is out yet but within green circles, our largest metropolitan areas, the St. Louis and Kansas City regions, are becoming known as green leaders

nationally," Bicknese said. "St. Louis and Kansas City are hotbeds of green activity and other parts of the state are starting to join in, too."

Hellmuth + Bicknese Architects provides architectural, consulting and planning services, all with a focus on sustainability. The firm boasts numerous out-of-state successes, including several projects in the Las Vegas area, such as a laboratory for the Nevada Cancer Institute. The firm is assisting these clients to achieve LEED® (Leadership in Energy and Environmental Design) certification. The company also helped leaders in DeKalb, Ill. develop a sustainable redevelopment plan to rescue a deteriorating corridor in the city that included several schools. Hellmuth + Bicknese Architects' latest venture is Torre Aristos, a proposed office building and hotel in El Salvador. The project is the first to pursue LEED certification in Central America.

Hellmuth + Bicknese Architects has seen a 75 to 90 percent reduction in construction waste at its projects, and energy and water reductions from 25 to more than 50 percent. Designers with this firm are taking sustainable development a few steps further.

Bicknese hopes Missouri leaders will continue this momentum by supporting policies that encourage energy efficiency and environmental improvements in schools and state-owned buildings. The firm recently developed sustainable design standards for the national Head Start program and helped several Missouri schools with energy-efficiency upgrades that were financed, in part, through grants and loans provided by the department's Energy Center. For Bicknese, providing a quality education in Missouri is critical to green industry.

"Intelligent people make more intelligent decisions and we need more intelligent decisions," Bicknese said.

Missouri boasts numerous green-minded businesses. A listing of businesses that support renewable energy is available at [www.dnr.mo.gov/pubs/pub1292.pdf]. Visit [www.dnr.mo.gov/env/hwp/computerlist.htm] for a list of other electronic recycling businesses. Businesses that use recycled materials are available at [www.dnr.mo.gov/eiera/mmdp-recycled-products-directory.htm]. ☼

Kathy Deters is a public information coordinator for the department.

A Historied Creek

by Loring Bullard

History Museum of Springfield and Greene County



Springfield, Mo. was founded along Jordan Creek, a small stream that still flows through the heart of the city. The city's founding father, John Polk Campbell, moved his family there in 1830, raising corn where the Springfield Square is today. Other settlers, mostly from Tennessee at first, soon followed. These early inhabitants referred to the little stream as "Campbell's Creek."



(Above inset) This view of the creek was taken in 1932, from the Benton viaduct, before the stream was directed underground.

Today, Jordan Creek remains confined by a concrete flume or enclosed in a tunnel through downtown Springfield. As this confinement crumbles or is removed as part of city planning, the community will be reintroduced to the beauty and demands of an open stream.

DNR photo by Scott Myers



(Above) Early Springfield resident, Jonathan Fairbanks, stands on the bank of Jordan Creek.
(Below) Jordan Creek emerges from its tunnel at Main Street.

steadily expanding community had already begun to corrupt its founding waters.

The story of Jordan Creek is one that has been repeated in urban areas across America and around the world. As cities expanded, urban streams became drainage ditches, flushing the filth of the city. Cities straightened, armored streambanks with rock and even buried the offending waterways.

R.L. Innis, Springfield's city engineer in 1883, touted the idea of a large "storm sewer" to convey the frequently flooded stream through the middle of town. A high-capacity flume seemed to be the only solution to a vexing urban problem. But by then,

flooding wasn't the only issue. Industries dumped wastes of all sorts directly into the creek. Innis noted that the stream had become a "death-breeding cesspool," flowing from town "reeking in poisons." Springfield's mayor, John McGregor, complained that the "low, ill-smelling valley of the historied creek" was an impediment to progress.

That same year – 1883 – Springfield got its first public water system. Soon afterward, sanitary sewers were needed to flush away human wastes, made fluid by newly installed hydrants and water closets. Prominent citizens claimed that the lack of sewers stifled growth and discouraged new business. Finally, in the 1890s, brick sewers were installed in the Jordan Valley. The

A round the time of the Civil War, when the settlement had grown to a few thousand residents, the stream acquired a new name, or nickname: Jordan Creek. Accounts vary as to why the creek was so named. By that time, the small but

main outlet emptied downstream of the city, spilling raw sewage into Jordan Creek. In 1898, Drury College professor Edward Shepard remarked that sewage had rendered the stream "very impure and turbid."

Not surprisingly, people living downstream of the sewer outlet complained and petitions and lawsuits soon followed. In 1912, "septic tanks" began to improve water quality downstream of the city. In the upper section of Jordan Creek, however, industrial discharges and polluted runoff continued to create problems, as did flooding.

Large-scale channel straightening and bank stabilization projects got underway in the 1920s, but it wasn't enough to prevent flood damage. In 1927, Jordan Valley property owners, uniting under the Jordan Valley Improvement Association, got a funding measure for a large storm drain placed on the ballot, along with viaducts to carry vehicular traffic high over the Jordan Valley. As if on cue, the stream flooded the day before the election, delaying trains and closing businesses. The next day, April Fool's Day, the measure passed overwhelmingly.

With funding from the bond measure and subsequent Public Works Administration money obtained during the Depression, the central part of Jordan Creek was placed in a concrete tunnel nearly two-thirds of a mile long, conveying floodwaters directly under downtown streets and buildings. But the "out of sight, out of mind" mentality hid the creek's other problems from a citizenry who generally didn't care to look.

By the late 1930s, newspaper reporters from the Springfield Leader and Press exploring the Jordan noted that once-flowing springs were gone and the waterway was buried. "Not only is its presence being concealed, but it is losing its identity." It "no longer displays any disposition to act up. In fact, it seems to have just about lost interest in life altogether."

Jordan Creek had, in fact, reached a low point in its existence. Trash and junk lined its banks, and its toxic waters were nearly devoid of life. As it became trashed and polluted, it lost even more value in residents' eyes, leading to even more abuse.

A few vocal citizens in the 1930s sounded the alarm about the deplorable conditions in Jordan Creek. But the rehabilitation of Jordan Creek would have to wait.

For the most part, real progress didn't occur until after World War II. Basic health

DNR photo by Scott Myers



protection and anti-pollution laws were finally passed that prevented industries from dumping poisonous chemicals directly into the creek. Routine trash collection and designated dump sites alleviated some of the problems. Cleanup events focused on blighted areas and eyesores. Outhouses and septic systems were removed as homes and businesses connected to city sewer.

As a result of these initiatives, water quality in the creek slowly improved. Some fish and aquatic life reappeared, even though habitat remained poor in the concrete-lined sections of the stream. Springs began to discharge cleaner water as leaking outhouses and septic tanks were removed from recharge zones.

Today, Carrie Lamb, who monitors Jordan Creek for Springfield's Department of Public Works, says that in spite of the progress, the Jordan still suffers. "Much of the development is old and drains directly into the creek, with little or no flood or water quality controls," Lamb said. The result is "flashy" hydrology, meaning the stream rises quickly after even moderate rains and runoff pollution continues.

Still, water quality in Jordan Creek is much better than in years past. With the assistance of the Missouri Department of Natural Resources, through the municipal storm water permitting program, this trend should continue. The stage has been set for the next steps in renewal. Springfield's public officials have taken note that a restored stream corridor can provide an anchor for downtown revitalization. The stream forms a central feature of Jordan Valley Park, a recreation and economic engine conceived during a community visioning process.

Some steps toward rehabilitation have begun. A section of upper Jordan Creek has been taken out of its underground tunnel. Todd Wagner, head of Springfield's Storm Water Division said this work was undertaken because "an open stream is more attractive than a large, enclosed concrete system,

DNR photo by Scott Myers



and will become a neighborhood amenity." Wagner says that section was chosen first because it connects two historic parks by a new linear park and recreational trail.

The public has been invited back to experience the founding waters. As people return to walk, explore and recreate along the old stream, a constituency for further renewal will be created. The long-awaited upward spiral, a stepwise ascendance in value, can begin.

With the taste of a rejuvenated Jordan Creek, the public will demand even more restoration. Someday, the Jordan may once again embody those values that attracted city founder, John Polk Campbell, and generations of Springfieldians to the banks of this resilient and "historied creek." ☀

Loring Bullard, of Springfield, is executive director of the Watershed Committee of the Ozarks, a citizen-based organization dedicated to the protection of public drinking water sources for the city of Springfield and Greene County. The committee's offices are located on the banks of Jordan Creek. Bullard is the author of "Jordan Creek: Story of an Urban Stream," available for \$5. Copies can be ordered at www.watershedcenter.org.

(Above) The confluence of the north and south branches of Jordan Creek remains confined in concrete channels, awaiting the next steps toward rejuvenation.

(Below) Signs of the future of Jordan Creek are an active Adopt-A-Stream program and the Springfield Department of Public Works' plans to protect the urban waterway.



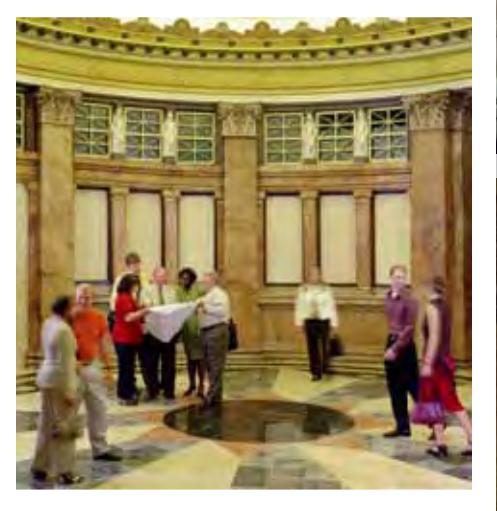
DNR photo by Scott Myers

Historic Celebration

by Kris Zapalac



The Lawrence Group photo



(Above) Rehabbing a building is “green” by definition, but the Security Building in St. Louis is the first historic tax credit project in the state to receive LEED® (Leadership in Energy and Environmental Design) certification at the silver level.
(Left) Lobby of the refurbished Security Building.

Alice O'Brien Photography photo



This year, 2008, marks the 40th anniversary of the Missouri Department of Natural Resources’ State Historic Preservation Office and the 10th anniversary of Missouri’s State Historic Rehabilitation Tax Credit program.

In 1966, Congress passed the National Historic Preservation Act, which declared that the preservation of historic properties was “in the public interest so that its vital legacy of cultural, educational, aesthetic, inspirational, economic, and energy benefits will be maintained and enriched for future generations of Americans.”

Established in 1968 as a result of that act, the State Historic Preservation Office has partnered with the U.S. Department of the Interior’s National Park Service and local governments to implement Congress’ vision. In 1976, when Congress created a 20 percent historic rehabilitation tax credit, the State Historic Preservation Office and National Park Service began reviewing the applications for what has become the federal government’s most effective means of promoting urban and rural revitalization through private investment in the rehabilitation of historic buildings.

In response to the decline in investment in Missouri’s underutilized historic buildings that followed a change in the federal tax code, the Missouri General Assembly created the 25 percent state rehabilitation tax credit in 1998. As is the case with the federal program, the State Historic Tax Credit Program is a partnership. The Missouri Department of Economic Development administers and audits the program, and the State Historic Preservation Office reviews the buildings and projects following the standards used for federal projects.

Like its federal predecessor, the state tax credit has proved enormously successful in creating jobs and restoring underutilized property to productive use. It does so in a manner that helps fulfill the mission of the Department of Natural Resources. Department Director Doyle Childers stresses the fact that “rehabbing a historic building conserves energy, helps reduce the amount of construction debris that goes into our landfills and takes advantage of already existing utilities and infrastructure.”

The success of the state program is recognized nationally as the reason for Missouri’s standing in the federal program – number one in projects completed and in dollars of private investment lever-

aged in both fiscal years 2004 and 2007. But numbers don't tell the whole story.

Revitalization projects begin with people – the people who first built, lived and worked in the buildings, those who rehabilitate them and those who live and work in them today. Toney Aid, who lives and works in a building he has rehabbed, is responsible for the four National Register of Historic Places listings in Howell County. Aid's first tax credit projects added 9,000 square feet to the leasable commercial space in West Plains and brought 25 jobs into the town square.

According to Aid, "The additional sales and income taxes repaid the state's investment within the first five years – they still add to the coffers." But his focus is local: "Not only has the county gained increased property taxes, but West Plains' Main Street has seen more than \$2 million in additional investment since the projects' completion."

Halfway across the state, similar successes and tax credits helped officials in Excelsior Springs, a Certified Local Government and a Downtown Revitalization and Economic Assistance for Missouri (DREAM) community, lure a developer to town to rehabilitate the long-vacant Snapp's Hotel into vibrant and affordable senior apartments.

These success stories are repeated in Arcadia, Boonville, Butler, California, Cape Girardeau, Carthage, Chesterfield, Chillicothe, Clarksville, Columbia, Danville, Farmington, Florissant, Fulton, Hannibal, Hartsburg, Hermann, Independence, Jefferson City, Joplin, Kansas City, King City, Kirkwood, Lexington, Louisiana, Manchester, Maplewood, Neosho, Nevada, New Haven, New Melle, North Kansas City, Osceola, Pilot Grove, Rocheport, Sedalia, St. Charles, St. Joseph, St. Louis, Ste. Genevieve, Springfield, Trenton, University City and Wildwood.

It is in communities like these that we celebrate the seeds planted by Congress' recognition that preserving historic structures would bring not only "cultural, educational, aesthetic and inspirational" benefits, but also "economic and energy benefits" for future generations. ☀

Kris Zapalac is a historic tax credit reviewer for the State Historic Preservation Office in the department's Division of State Parks.



Use of State and Federal Historic Tax Credits (HTC) in the Rehabilitation of Underutilized Properties in Missouri

FY1998-2007

Mo. state HTC

No. of projects	1,162
total investment	\$3,264,685,253
allowable costs	\$2,614,344,817
credits issued	\$652,885,052

Mo. use of federal HTC

No. of projects	688
total investment	\$2,042,064,310

(Above) Historic tax credits put people and buildings to work in towns across the state, often in Main Street storefront buildings, but also in hotels that sprang up next to railroad depots or highways of yesteryear. (Inset) Founded to take advantage of "curative" springs, Excelsior Springs (pop. 10,847) had more hotels than most. As in other towns, historic tax credits made it possible to convert the Snapp's Hotel into apartments.

News Briefs

New Satellite Offices in Northeast Region



The Missouri Department of Natural Resources held grand opening celebrations for three new satellite offices in Boonville, Hannibal and Kirksville in June 2008. All are to be managed by the department's Northeast Regional Office in Macon.

The Boonville Satellite Office, is located in the Katy Trail Depot, 320 First St. and will provide field services in Cooper and nearby counties.

The Hannibal Satellite Office is located at the Missouri Department of Transportation District 3 Office, 1711 South Highway 61. The site will focus primarily on water pollution issues in northeast Missouri counties that border the Mississippi River.

The Kirksville Satellite Office is located on the campus of Truman State University. In addition to providing service in Adair and nearby counties, staff at this location will also work with the university on several cooperative projects.

The department's Field Services Division oversees five regional offices and 17 satellite offices. A map of regional offices and satellites is available online at [www.dnr.mo.gov/regions/regions.htm].

Lake of the Ozarks E. Coli Tests Continue



The second year of monthly water testing for the E. coli bacteria at the Lake of the Ozarks has seen sampling of targeted coves that began in May and continues through October.

Through July, the latest time period for which test results were available, 163 water samples were taken between the Lake of the Ozarks Community Toll Bridge and mile marker 30. Eight of these samples revealed E. coli present in levels above 126 colonies per 100 milliliters.

The state water quality standard for waters with whole body contact for recreation is a geometric mean of 126

E. coli colonies per 100 milliliters of water during the entire recreational season of April 1 to Oct. 31. However, a single sample result does not mean that an area fails to meet the standard. Multiple test results are required during the period.

The Department of Natural Resources, in partnership with the Department of Conservation, AmerenUE and the Lake of the Ozarks Watershed Alliance, will continue to test coves from the Community Toll Bridge to mile marker 30 through October.

E. coli is a bacteria found in the intestinal tract of warm-blooded animals. Frequently associated with faulty septic tanks or sewer systems, E. coli can cause gastrointestinal illness. For more information on E. coli and the testing program, including 2007 results, visit the department's Web site at [www.dnr.mo.gov/pubs/pub2239.pdf].

Water sample test result data are also online at [www.lmpv.org/LOWA/ecoli.htm]. A link to the data can also be accessed through the Lake of the Ozarks Watershed Alliance's Web site, [www.soslowa.org].

New Standards Affect Wastewater Treatment Permits



Due to implementation of federal water quality standards, wastewater treatment facilities throughout Missouri will begin seeing tougher requirements when seeking to renew their operating permits. These standards may require costly facility upgrades.

Wastewater treatment facilities, which operate under permits issued by the Department of Natural Resources, must renew their permits every five years. In a facility's next permit cycle, its permit may contain new or revised limits and a timeline for meeting those new limits. These new requirements include limits for bacte-

ria, ammonia and metals. New or expanding facilities will also have to conduct an antidegradation review.

While most of the costs will ultimately be borne by the facilities and their customers, the department offers financial assistance to help communities through the State Revolving Loan Fund. The fund provides low-interest loans to municipalities, water and sewer districts, saving them 60 to 70 percent of the interest cost of a conventional loan.

In addition, to alleviate the strain of meeting the new standards, Gov. Matt Blunt approved the sale of \$50 million in Water Pollution Control Bonds in 2007 for public drinking water and wastewater infrastructure grants statewide.

For more information on what services the department provides, visit our community assistance Web page at [www.dnr.mo.gov/assistance].

Water Saving Tips Offered



The Missouri Department of Natural Resources offers some tips to consumers to help conserve water to observe Drinking Water Week. Conserving water will save consumers' money and help ensure the sustainability of public water supplies.

The following 10 tips will help conserve water this week and all year long:

- Take short showers and draw less water for baths.
- Turn off the water while brushing teeth and shaving.
- Keep drinking water in the refrigerator rather than run the tap.
- Compost food scraps rather than using the garbage disposal.
- Check your toilet for leaks by placing a little food coloring in the tank and seeing if it leaks into the bowl.
- Water lawns in the evening or early morning to minimize evaporation.
- Position sprinklers so the water reaches the lawn, not paved areas.
- Use a broom to clean sidewalks and driveways, not a hose.

- Wash your car less often.
- Cut grass at least 3 inches high to shade the roots, making it more drought tolerant.

Drinking Water Week recognizes Missouri's public drinking water systems for providing Missourians with safe drinking water. A safe, reliable water supply is critical to the success of any community.

Initiative Funds New Drinking Water Grants

The Missouri Department of Natural Resources will commit approximately \$2.8 million to eight northwest communities for drinking water treatment and distribution improvements. The grant funds are part of the governor's Clean Water Initiative.

The Atchison County Wholesale Water Commission, consisting of Atchison County Public Water Supply District No. 1 and the communities of Craig, Fairfax, Rock Port and Tarkio, will use the grants in combination with other funds to construct a new water treatment facility to produce water on a regional scale, to provide water storage and distribution to deliver safe and adequate water to wholesale customers and to upgrade individual distribution systems to accept water from the regional supplier. This is part of a long-term regional plan involving 12 counties in northwest Missouri.

The cities of Burlington Junction, Clearmont and Hopkins in Nodaway County will use their grant funds for their drinking water projects.

In June 2007, Gov. Blunt announced that the state would issue \$50 million in bonds to assist Missouri communities facing problems related to drinking water and wastewater treatment. The loans and grants from the Clean Water Initiative are administered by the department's Water Protection Program and are limited to counties, municipalities and water or sewer districts.

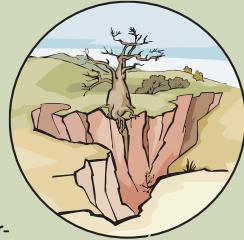
In August, 2008, four grants totaling \$1.1 million were also awarded to the communities of Arcadia, Fair Grove, Ste. Genevieve and Platts-



environmental notes

Managed Sinkholes Protect Water

For too many years, Missouri landowners – including local governments and businesses – used sinkholes as convenient places to dump trash, pour used oil or antifreeze or to dispose of junk cars, old concrete or tree trunks. Perhaps, for just as many years, people have misunderstood what sinkholes are and how they should be managed to protect natural resources.



The Missouri Department of Natural Resources has interest in sinkholes within the Division of Geology and Land Survey, the Solid and Hazardous Waste Management programs and Water Protection Programs of the Division of Environmental Quality and the Water Resources Center.

Sinkholes are characteristic of a geologic condition known as karst topography. Other geologically related karst features include losing streams (streams that lose their flow to the subsurface), springs, caves and valleys formed by collapsed caves.

A sinkhole (also called a doline) is a depressed area usually formed by the movement or collapse of soil into a cave system formed in dolomite or limestone bedrock below the surface. Sinkholes range in size from several square yards to hundreds of acres. They may be shallow or may extend hundreds of feet deep. Sinkholes are places where there is rapid recharge or replenishing of groundwater from the surface so they are areas of potential groundwater contamination. This would more likely show up in springs rather than properly cased wells. However, managing surface water quality and waste disposal practices in sinkhole-prone areas are important to maintaining reliable groundwater sources.

Missouri's water protection regulations are designed to protect the groundwater resources because groundwater is widely used for drinking water in some parts of the state. Injection of hazardous wastes such as industrial fluids, service station fluids or radioactive wastes into groundwater through wells or sinkholes is prohibited. Permits (licenses) are required in order to drill almost any type of well in the state, including water and monitoring wells, ground source heat pump systems, and mining exploration test holes. Permits are also required for constructing and operating public water supplies.

The land application of manure from concentrated animal feeding operations is restricted to no closer than 300 feet from losing streams, sinkholes, caves, wells, abandoned wells, water supply structures or impoundments and any other connection between surface and groundwater.

Solid waste disposal regulations prohibit the use of sinkholes as landfills or even as emergency burial sites for construction and demolition waste or storm debris. This is not only to protect groundwater, but deep beneath the surface, where cave-dwelling fish and animals exist, decaying wastes can deprive them of life-giving oxygen.

Dead animal burial and composting efforts are not allowed near sinkholes and must be kept 100 feet from surface water such as ponds, streams and lakes. These activities also are banned 300 feet from springs, losing streams, and wells – used or abandoned – or from neighboring residences, surface drinking water intakes and public water supply lakes.

Proper sinkhole management is critical to the long-term protection of Missouri's natural resources.

News Briefs

burg for water infrastructure improvements through the governor's Clean Water Initiative.

Department Awards Playground Grants



Material Grant cycle.

These grants promote the use of recycled scrap tires for playground cover or surfacing material for running tracks, trails or other projects.

The Missouri Department of Natural Resources has awarded 10 grants totaling \$95,000 from the fiscal year 2008 Scrap Tire Playground Surfacing

Non-profit organizations including schools, day care centers and parks may apply for grant funds. The department has awarded almost \$1.6 million to 279 organizations since the grants became available in 1994.

Funding for the grant program is a 5 percent portion of the 50-cent-per-tire fee collected during the sale of new tires in Missouri. It also finances cleanup of illegal scrap tire dumps, inspection and enforcement. The fee is set to expire on Jan. 1, 2010, unless it is renewed by the legislature.

For more information on the Scrap Tire Material Grants or the department's Solid Waste Management Program, call 573-751-5401 or 800-361-4827 or visit the Web at [www.dnr.mo.gov/env/swmp].

Missouri Leads Nation In Historic Preservation

Missouri once again leads the nation in private investment in historic buildings in town squares, rural farmsteads and larger urban areas across the state. Developers invested almost \$535 million in the rehabilitation of Missouri buildings certified for federal historic preservation tax credits.

According to fiscal year 2007 statistics released by the National Park Service, Missouri ranked No. 1 in all three of the following categories: \$534,854,460 in up-front investment by developers; 174 projects received preliminary approval; and 189 projects received final approval.

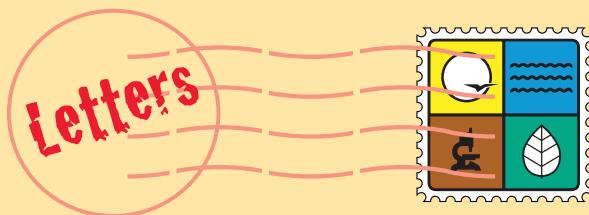
Missouri's consistently high federal standing is attributed to the State His-

I was reading your article in the Winter 2008 issue on water testing at the Lake of the Ozarks. Of the 57 samples taken, all were within the E. coli standard for swimming and whole body contact recreation. I live on the Big Niangua arm above the bridge at about the 5- or 6-mile marker. As far as water color is concerned, I don't see why anyone might even swim in the lake. People live on the hillside overlooking the lake with state-approved septic systems – I have one myself. Years ago, my water tested positive for E. coli. After I had an ultraviolet water purification system put in, it checked out fine. Back then, on the Ha Ha Tonka side, you could drink from the lake, and the water tasted good. During your next scheduled testing, I wonder if your testers would lean out of the boat and take a drink of this so-called pure water. Fall is a busy time on the lake, why don't you give the water a test on the Big Niangua arm?

Wallace Roofener
Camdenton

Editor's Note:

The Field Services Division, which is handling the department's part of the testing, reminds us that the recreational use of today's Lake of the Ozarks is far greater than previous decades. That impact requires that we focus our efforts on what is safe for swimming, which is a much lower standard to meet. Testing continued this spring and runs through October. Eventually, all of the lake will be tested. If we do not get to the Niangua arm this year, rest assured we will at some point during the testing project.



I enjoyed J.D. Balkenbush's article on his experience riding the KATY trail. I recently organized a group of friends to ride the trail as a memorial to my sister, Debbie Fink. She died 10 years ago on March 25th. We rode from Clinton to St. Charles in March this year. She loved to ride bikes and we utilized her memorial funds to purchase several benches along the trail. I have visited the two benches in St. Charles, but had never been to the one near Treloar. I also didn't complete the whole trail, but the majority, as J. D. did. We (Jeff Johnson, Stew Monnier, John, Becky and Dan Porter) didn't have nearly the company, only saw two other groups, and it snowed on us. The support vehicle was my husband, who helped navigate the course and even managed to get my elderly parents close enough to Treloar to walk 1 mile to the bench. Thank you to the tree farm near Treloar who gave them a ride back to his truck. We thoroughly enjoyed our trip and the towns we stayed overnight in – Sedalia, Jefferson City, Boonville and Hermann. What a great ride. Pain truly is the path to joy!

Diana Dickey
Kansas City

Letters intended for publication should be addressed to "Letters," Missouri Resources, PO Box 176, Jefferson City, MO 65102-0176 or faxed to (573) 522-6262, attention: "Letters." Please include your name, address and daytime phone number. Space may require us to edit your letter. You also can e-mail Missouri Resources staff at moresdnr@dnr.mo.gov



Stream Team Notebook

historic Rehabilitation Tax Credit Program created by the General Assembly in 1997. Since that time, hundreds of underutilized historic buildings have been reclaimed throughout the state.

The department's State Historic Preservation Office oversees the federal projects at the local level.

Parkway North On Envirothon Roll



Parkway North High School won the Missouri Envirothon competition for the third straight year

and then placed second in the national contest. The school is part of the Parkway School District in St. Louis County.

The team competed at the 2008 Canon Envirothon in Flagstaff, Ariz., July 28 to Aug. 3, and scored 606.7 out of a possible 700 points to win second place. Each team member will receive a \$4,000 scholarship.

The Canon Envirothon is North America's largest high school natural resources competition, with more than 54 teams from 46 states and eight Canadian provinces competing at the national level. The state event at Lake of the Ozarks State Park featured the top three teams from each of Missouri's seven regional competitions.

The Envirothon consists of students competing at five outdoor testing stations – aquatic ecology, forestry, soils and land use, wildlife and recreational impacts on natural resources. Each team also gives an oral presentation to a panel of judges.

Parkway North's Russell Barton has coached the team for the past five years.

Sponsors for the Missouri Envirothon include the Missouri Department of Natural Resources, the Missouri Association of Soil and Water Conservation Districts, local soil and water conservation districts, the Missouri Department of Conservation, the Missouri Soil and Water Conservation

Stream Team Meets President

The Reeds Spring High School Stream Team 432, formed in 1993, is possibly the only Stream Team to have met the President of the United States. President Bush presented the team with a 2007 President's Environmental Youth Award in April 2008. The team was chosen as the winner by the U.S. EPA's Region 7, which comprises the states of Iowa, Kansas, Nebraska and Missouri.

The Stream Team became involved in this water stewardship project after its members studied environmental issues that affect streams in their community. In the spring of 2007, team members researched and designed a project on water monitoring. In September, the team collected and analyzed water samples at specific sites along a local stream. The data they gathered was analyzed and sent to the Department of Natural Resources to be included in a statewide water quality database. The team also floated the James River to pick up litter, sample stream invertebrates, test water acidity and take water samples back to the laboratory for bacterial analysis.

Stream Team members prepared maps, graphs and spreadsheets of data to illustrate the results of water testing. They also gave presentations to school staff and organizations to inform the community about protecting its streams and how individuals can become involved in improving the quality of Missouri's streams. Team members researched environmental regulations and local impacts on stream quality. They also traveled to Jefferson City to discuss local water quality issues with the Missouri General Assembly.

The Reeds Spring High School Stream Team 432's dedication and efforts to teach the public about environmental issues and how individuals can become involved in this project are making a difference in their community.

The Stream Team Program is a cooperative effort between the Missouri Department of Natural Resources, the Missouri Department of Conservation and the Conservation Federation of Missouri. For information about the Stream Team Program, visit [www.dnr.mo.gov/env/wpp/VWQM.htm] or [www.mostreamteam.org].



DNR photo by Scott Myers

The Reeds Spring Stream Team visited Missouri Department of Natural Resources Director Doyle Childers on their way to the Missouri State Capitol for Lobbying Day.

First row, left: Brooke Morey, Robin Langton, Molly Riddle, Ashleaha Farley. Second row: Priscilla Stotts, Julia Pope, Mike Collins, Daniel Seiler, Ryan Lear, Doyle Childers, Ross Carter, April Van Haitsma, Mikal Farley and Tonya Lewis.



TIME EXPOSURES



State Parks file photo

Civilian Conservation Corps Company 1713 posed for this photo in June 1933, while they were working on projects at Roaring River State Park, in Barry County. Some of the buildings that make up Camp Smokey, the park's organized group camp, were constructed by the CCC. The photo provided a reason for everyone, including the cooks and officers, to relax and look sharp. See pages 2, 3, 4 and 5 of this issue for stories and photos of other CCC group camps that are now part of Missouri's natural resources.

Send your photo to "Time Exposures," c/o Missouri Resources, PO Box 176, Jefferson City, MO 65102-0176. All pictures will be returned via insured mail. Pre-1970 environmental and natural resource photos from Missouri will be considered. Please try to include the date and location of the picture, a brief description and any related historic details that might be of interest to our readers.

Districts Employee Association, the U.S.D.A. Natural Resources Conservation Service, the University of Missouri Extension and the Show-Me Chapter of the Soil and Water Conservation Society.

New Parks Office In Kansas City



Kansas City. The office is intended to elevate the visibility and programs offered to urban audi-

ences and seek opportunities to contribute to the growth and enrichment of families and youth in the urban areas. The office will be modeled after a similar office that has been established by the division in the St. Louis area.

"Many times, residents in the urban areas are not aware of all the opportunities available in Missouri state parks and historic sites. These urban offices are one way we can reach out to these audiences and let them know all we have to offer," said Doug Eiken, director of the department's Division of State Parks.

Staff at the Kansas City Area Office will develop an urban outreach plan that best complements and supports

other community efforts. Staff will be responsible for developing special programs and events that target urban audiences. These efforts will include teaching them basic outdoor skills and providing information about recreational opportunities.

The Kansas City Area Office, located at 4750 Troost Ave., is expected to be fully operational by fall 2008.

For news releases on the Web, visit [www.dnr.mo.gov/newsrel/index.html]. For a complete listing of the department's upcoming meetings, hearings and events, visit the department's online calendar at [www.dnr.mo.gov/calendar/search.do].

Leading Recyclers Missouri State Highway Patrol

The Missouri State Highway Patrol warehouse staff were recognized by the Office of Administration, Missouri State Recycling Program, with the 2007 annual recycling award for a state agency.

According to Rob Didrickson, coordinator of the state recycling program, the efforts of agencies statewide resulted in a combined total of 4,532 tons of materials recycled in 2007. If this amount of material had been sent to landfills, it is estimated the State of Missouri would have paid at least \$163,922 in disposal costs.

MSHP Supply Manager Chris Terry said that the history of the patrol's recycle program started about five years ago with the recycling of paper goods through MRS Recycling Services, Jefferson City. Three years ago, Darrell Taube, the warehouse manager at that time, inquired about recycling rechargeable portable radio batteries, which MSHP generated in large quantities. This led to a statewide solution to battery recycling for all state agencies, through the recycling company RBRC, Tampa, Fla.

The warehouse developed a system whereby supplies and goods are not only distributed statewide from Jefferson City, but also many items that can be recycled are returned to the warehouse for recycling. Items include office paper, catalogs, phone books, shredded materials and ink toner cartridges. The patrol realized that many of their supply trucks were returning to the Jefferson City warehouse empty and it made sense to offer recycling services to other offices.

Terry and Taube next looked into ways of recycling scrap metals generated by the highway patrol. Galamba Metals Group, Holts Summit, soon had a dumpster in place. Metal car parts from the patrol's Motor Equipment Division, along with old file cabinets, chair parts, desks and basically any metal junk that could be found, went to recycling instead of landfills. Money collected from metal recycling is sent to OA's Missouri State Recycling Program.

In 2006, the patrol warehouse purchased a baler so they could crush and bale old cardboard. The patrol also made its employees aware that they could bring recyclable items to the warehouse. The Motor Equipment Division, in cooperation with the Department of Corrections, shreds and recycles used tires. The division also burns used oil from patrol vehicles to heat a mechanic's garage. They also recycle lead batteries and antifreeze from patrol vehicles. The department also recycles the daily cooking oil from its kitchen at the Jefferson City training academy. A total of 780 pounds of used cooking oil has been recycled.

In 2007, the patrol took bids and recycled 8,600 pounds of spent brass casing from ammunition training. T&T Pallets, Jefferson City, now gathers and refurbishes all wooden pallets and boards that MSHP discards.

To date, the agency has recycled 46.5 tons (92,635 pounds) of loose paper; 2.5 tons (4,800 pounds) of shredded paper; 12 tons (24,000 pounds) of cardboard; 150,000 pounds of scrap metal; 1,000 rechargeable batteries; 670 wooden pallets; and 1,200 tires.

"The patrol continues to find other ways to improve the environment by recycling other goods such as plastic water and soda bottles," said Terry. "And, of course, our purchasing department is always looking to buy recycled goods, if available."



DNR photo by Scott Myers

Darrell Taube and Chris Terry

Taking Charge Wendell Hall

Wendell Hall, an environmental specialist with the Division of Field Services, Environmental Services Program, Southwest Regional Office, Springfield, was named the Missouri State Employee of the Month for April 2008. He was also named Employee of the Month for March 2008 by the Missouri Department of Natural Resources.

On Jan. 8, 2008, heavy rain caused flow through the city of Noel wastewater lift station to increase from the normal rate of 140,000 gallons per day to approximately one million gallons per day. City employees soon observed that no flow was entering the treatment facility from the lift station pipeline. They determined that the pipe crossing the Elk River was either broken or swept downstream. This caused a continuous release of untreated wastewater into the Elk River. However, due to the increased flow of the river and infiltration of rainwater into the sewer system, the raw sewage was highly diluted. This minimized the immediate potential for environmental damage, but the spill continued.

On Jan. 10, SWRO staff, Wendell Hall and Randall Willoughby, ESP on-site coordinators, met with city of Noel officials to discuss the situation. Hall took the lead in managing the morning meeting and later discussion at the lift station between department staff and the city's wastewater operator and mayor, to evaluate the situation and determine possible solutions. In the afternoon, city officials, SWRO staff and engineers representing the city of Noel, met to discuss a three-pronged approach to dealing with the broken wastewater main. Once again, Hall stepped in, took the lead in manag-

ing the discussion and provided the media with explanations and updates.

On Jan. 11, Hall made another trip to Noel to assist the city and its engineers in achieving a timely, environmentally safe and efficient solution to this emergency. On Saturday, Jan. 12, he returned to oversee the implementation of the emergency response plan. City officials hired a contractor that used three tanker trucks to shuttle wastewater one-half mile from the lift station to the city's wastewater treatment plant, bypassing the break in the line. The flow of wastewater into the Elk River was completely stopped and once again the water quality of the Elk River was protected.

In nominating Hall, Brian Allen, chief, Environmental Emergency Response / Field Services, Jefferson City, said, "Without Wendell's expertise and leadership, the situation would not have been resolved as quickly and efficiently. He is always very professional, knowledgeable and a true credit to the department. He is extremely capable at organizing and dealing with a variety of situations and people."

Hall began working for the department in November 1993. He lives in Nixa with his wife and two children. They enjoy outdoor activities such as canoeing, camping, hiking and biking in their Ozarks surroundings.

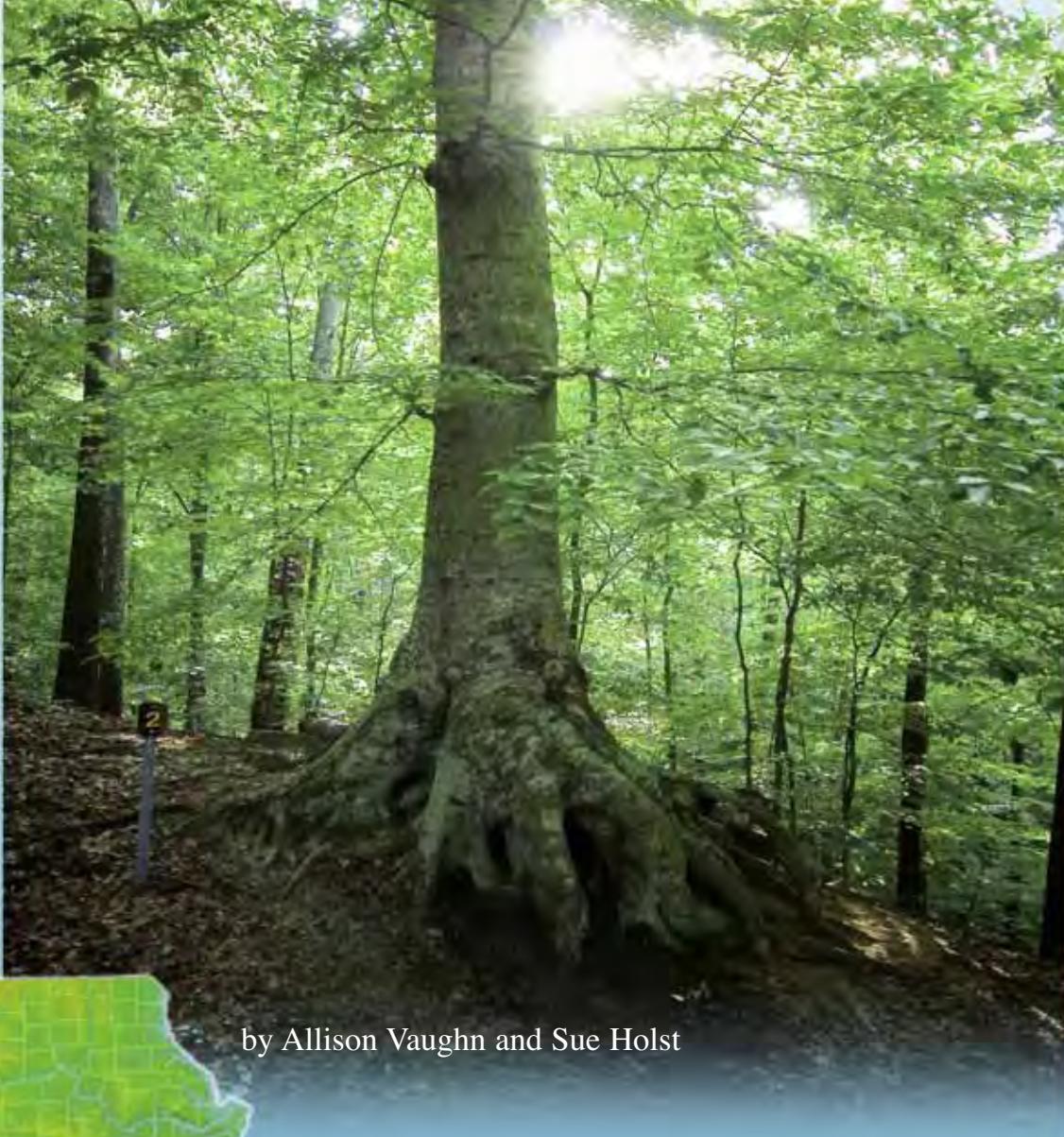


DNR photo by Tina White

Wendell Hall

Resources to Explore

Morris State Park



DNR photo by Scott Myers

by Allison Vaughn and Sue Holst



Emerging out of the low, flat, alluvial lands of southeast Missouri is a long, narrow band of ancient loess-capped hills called Crowley's Ridge. This series of hills exposes Missouri's geologic past in a manner unseen anywhere else in North America. For visitors wanting to explore this ancient landscape, they can do so at Morris State Park in Dunklin County, Missouri's only state park on Crowley's Ridge.

What visitors see today began forming millions of years ago when melt waters from retreating glaciers carved out miles of broad, flat floodplains now associated with the southeast lowlands. As the Mississippi and Ohio rivers moved to their present location, they left a high ridge between them that collected windblown silt, called loess, and sediments for millions of years. Based on ancient bedrock and topped with loess, Crowley's Ridge rises 200 to 500 feet above the Mississippi floodplain.

Named after early land surveyor and War of 1812 veteran Benjamin Crowley, Crowley's Ridge stretches for 200 miles from Commerce, Mo., to Helena, Ark., and is one of the few wooded tracts of land remaining in southeast Missouri.

In 2000, Springfield businessman Jim D. Morris donated this part of Crowley's Ridge to the Missouri Department of Natural Resources. Morris grew up in the area around the property and wanted to ensure that this land would be preserved for future generations to enjoy. The property was likely the largest tract of intact Crowley's Ridge woodlands in private ownership.

Characterized by old-growth beech trees, acid seeps, a rich understory layer of ferns and sedges and a small remnant of the historical Malden Prairie, the 161-acre park occupies the eastern slope of the ridge from crest to floodplain. Surrounded by a landscape largely converted to agriculture, Morris State Park preserves ancient plants and animals that some botanists believe may have once covered most of Missouri before the glacial retreat of the last ice age. Sand woodlands and forests dominated by cherrybark oak, willow oak, southern red oak

and northeastern distributions. Crowley's Ridge represents the western edge of the range for these and other plants, like the small woodland sunflower and locally rare orchids such as large whorled pogonia.

Small acid seeps occur at the base of slopes where they continuously trickle water through sands and gravels deposited roughly 95 to 70 million years ago. These small wetlands harbor sedges and ferns and can be found scattered throughout Morris State Park. The low-growing vine partridge berry grows on moist sandstone outcrops associated with acid seeps. Animals such as Mississippi mud turtles, spotted salamanders and five species of frogs (including the green tree frog, an animal whose habitat is restricted in Missouri to the southeast) live in these specialized and unique areas.

*B*efore European settlement, the sprawling Malden Prairie stretched from Stoddard County through Malden and south into northern Arkansas. This gently undulating alluvial sand plain rested at the base of Crowley's Ridge. Historically, fire swept across the vast Malden Prairie, invigorating



and devil's walking stick prevail here and are the only place in Missouri where these species occur together. Similar sand communities are, however, common to the southeastern United States.

More than 326 plant species have been identified at the park, many of which are restricted in Missouri to the acidic, gravelly soils on Crowley's Ridge. Several of these species, like American beech, tulip poplar and American holly, are of distinctly eastern

warm season grasses while keeping trees at bay. As fire moved across the prairie, it traditionally crept up the steep slopes of Crowley's Ridge, consuming leaf litter and encouraging a rich herbaceous layer in the woodlands.

While agriculture claimed most of the loamy prairie soils by the early 1900s, a small remnant of the prairie still exists in Morris State Park. Within the past 50 years, fire suppression allowed trees and brush to

(Opposite page) Old-growth beech trees, found only in Missouri's southeastern counties, thrive in Morris State Park's sandy soils.

(Above) A variety of ferns and wildflowers decorate the woodland floor at the 161-acre state park on Crowley's Ridge.

DNR photo by Scott Myers



DNR photo by Scott Myers



DNR photo by Alison Vaughn

(Above, top) Victoria Jackson and Delois Ellis, New Madrid, take a paved walkway to an overlook with views of Morris State Park's forests. (Above) This cliff exposes layers of soil deposited between 10,000 and 85 million years ago.

move into the remnant prairie. Park staff have removed trees from the area and used managed fire to encourage the growth of native prairie vegetation. The prairie has the only known population of giant sugarcane plumegrass in Missouri, and this management also has encouraged the spread of the grass into its historic range.

In the 1950s, due to logging pressure and natural erosion, part of a steep hillside on the eastern side of the park collapsed, exposing geologic layers deposited between 85 million and 10,000 years ago. At the top of the cliff, thick loess layers deposited near the end of the ice age pose sharp contrast to the red clay and sandstone layers seen at the base.

The cliff, which drops roughly 100 feet into a moist wooded valley, is devoid of vegetation.

Morris State Park is a great place to observe birds because of its location on the Mississippi Flyway, a migratory route followed by millions of birds every fall and spring. As songbirds travel between their wintering grounds in South and Central America to their breeding grounds in North America, they locate undisturbed parcels of land in which to feed and rest before continuing their journey. The woodlands and forests of Morris State Park offer protection from the elements, food and water in a landscape largely dominated by agriculture. During migration, bird lovers can find chestnut-sided warblers, bay breasted warblers and black-throated blue warblers.

To emphasize and preserve the natural integrity of the area, the Department of Natural Resources has decided to allow only minimal development at the park. A short accessible walkway leads to a covered hillside overlook nestled in the trees. Information provided along the trail profiles the formation and natural features of the park and Crowley's Ridge. The two-mile Trail of the Beach Trees is a good way to explore the park and take a closer look at its features. The trail enables park visitors to hike the steep hill to the top of Crowley's Ridge, traversing through sand forests, woodlands and, in the lower reaches of the park, small intermittent streams.

Spring ushers in the blooming period of the red buckeye, a common understory shrub restricted to the southeast in Missouri. Bristly sunflowers and Devils' walking stick bloom in the summer months, inviting a suite of pollinators deep into the woods. The white oaks, American beech and red maples dazzle park visitors in the fall with showy red and yellow leaves.

To the casual observer, Morris State Park is a welcoming shady island in a sea of agriculture. By looking deeper, they will discover rich woodlands, remnant prairie and sand forests that represent a rare erosional landscape that only remains in North America within the confines of 200 miles.

Morris State Park is located five miles north of Campbell on Route YY in Dunklin County. For more information about the state park, visit [www.mostateparks.com].

Allison Vaughn is a natural resource steward and Sue Holst is the public information officer for the Department of Natural Resources' Division of State Parks.



Danny Jaco

THE BEST JOB IN LAW ENFORCEMENT

by Jennifer Sieg
photographs by Scott Myers

Growing up near Lake Wappapello, Danny Jaco developed a strong interest in the area. Today, he holds what he calls “the best job in law enforcement.” Jaco serves as a state park ranger at Lake Wappapello State Park. With his interest in law enforcement and the outdoors, a law enforcement job in a recreational setting proved to be a perfect match for him.

“Compared to other jobs in law enforcement, I work in a friendlier atmosphere, even though people aren’t always happy to see me. It is more interesting because of the variety of things that I enforce, ranging from wildlife laws to narcotics,” said Jaco.

A typical summer day for Jaco starts with a short meeting with park staff to get an update of what’s going on in the park and to see if any concerns had arisen overnight. Then, it’s off to patrol the campground, particularly to check up on problems from the evening before. Along the way, visitors ask him a variety of questions pertaining to the park or other local attractions.

The day-use area is his next destination to make sure park visitors are complying with park rules, like staying within the buoys in the swimming area and keeping their dogs on a leash. Talking to park visi-



State Park Ranger Danny Jaco talks with Lake Wappapello State Park camp host Dennis Parish. Parish and his wife Peggy are full-time “RVers” from Texas, currently based in South Dakota.

tors, traffic control and issuing citations for various violations fills the day.

As it started, the day ends in the campground. A very important part of the job requires an evening walk or bicycle patrol of the campground, going from site to site enforcing quiet hours. In the fall and winter, when there are fewer campers and picnickers, Jaco concentrates on patrolling the park’s trails. There is plenty of paperwork to be done, as well.

“It’s very rewarding knowing that I make the park a safe, family-friendly place. Parents don’t have to worry about letting their kids ride their bikes in the campground. By



“ ... I FEEL THAT I MAKE A BIG DIFFERENCE IN VISITORS HAVING A POSITIVE EXPERIENCE.”

- PARK RANGER DANNY JACO



(Above, top) Ranger Danny Jaco spends a lot of time on traffic control and routine patrol of the park's campground and day-use areas.
(Above) Ranger Jaco greets visitors to Lake Wappapello State Park and provides them with information, assistance and safety advice.

enforcing the park rules, I feel that I make a big difference in visitors having a positive experience,” said Jaco.

There are two different entry-level positions for anyone wishing to become a park ranger. The park ranger recruit position requires an individual to have 60 semester hours of credit from an accredited college or university. Fifteen of those must be in law enforcement, criminal justice, sociology, psychology or a closely related behavioral science. The park ranger position requires an individual to be a graduate of a Missouri Peace Officers Standards and Training Commission approved law enforcement academy.

Both positions require applicants to pass a physical performance test and an intensive

background investigation, appear before an oral interview board, have or be able to attain a valid Missouri driver’s license, be age 21 or older and successfully complete a psychological evaluation and a medical exam that includes drug screening. Applicants must be eligible to be certified as a peace officer in the state of Missouri. To apply for either of these two positions, individuals must complete a Missouri Merit System application, which can be completed online at [www.ease.mo.gov].

In addition, Jaco says that good communications skills are a must. “You could get eaten alive if you don’t have good communication skills and the ability to peacefully work out problems with people,” he said. “You also need a certain amount of common sense and to be street smart.”

In Jaco’s opinion, you can’t beat his job. “The benefits are great, the pay is competitive, the equipment and training are superb, you get a lot of support from staff and there is a lot of room for advancement. And ... you get to work in a recreational setting.”

Jennifer Sieg is a public information specialist with the department’s Division of State Parks.

Planning a New State Park

by Sue Holst

photograph by Scott Myers



Department of Natural Resources Director Doyle Childers, left, Gov. Matt Blunt and John Hoskins, director, Department of Conservation, discuss development plans at Current River State Park.

Planning is under way for the newest state park in the Missouri state park system: Current River State Park. The new state park north of Eminence in Shannon County is being built along one of the state's most outstanding rivers, the Current River.

The new state park showcases all three parts of the Missouri state park mission: It has outstanding natural landscapes and historical landmarks, as well as opportunities for recreation. That three-fold mission is why Gov. Matt Blunt felt the area would be well suited as a state park. The property was owned by the Missouri Department of Conservation and operated as the Jerry J. Presley Outdoor Education Center. Gov. Blunt requested that

MDC and the Missouri Department of Natural Resources work together to create the state park. In early 2008, Conservation transferred approximately 800 acres to Natural Resources for the new state park.

Current River State Park is being built on property that was formerly the Alton Club, which was constructed in the late 1930s as a corporate retreat for the Alton Box Board Co. and whose structures are now listed in the National Register of Historic Places. In addition to its historical significance, the new state park is part of the much larger and naturally significant Current River landscape. With its location adjacent to the Current River, a portion of the new state park is within the sce-

nic easement of the Ozark National Scenic Riverways, which was the nation's first national park to protect a wild river system.

The area of the park within the scenic easement will include the restored buildings of the corporate retreat, along with day-use activities such as a picnic area, fishing in the lake and a small canoe take-out area. Outside of the scenic easement, modern state park amenities will be constructed. Visitors will be able to stay in cabins or bring their tent and stay in the campground. The park will serve as a central hub for area hik-

ing information and miles of hiking and backpacking trails will be constructed and linked to other public trails in the area. A special-use camp will be available by reservation to organized groups. In keeping with the educational legacy of the area, the Jerry J. Presley Education Center will be developed with meeting spaces to serve a variety of programming activities.

Development of the park is being financed as part of the settlement agreement with AmerenUE over the Taum Sauk Reservoir breach. The department hopes to have the majority of the park open to the public in 2010.

Sue Holst is the division information officer for the Division of State Parks.



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